

CLAIMS:

1. Method for generating a key identifying a recording medium comprising code words, the method comprising the steps of
 - determining a control point in a block of input words where the block of input words can be altered by an alteration.
- 5 - for each alteration of a group of N possible alterations determining, between a group of code words in a first track and a group of code words in a second track which is adjacent to a third track which is adjacent to the first track, a crosstalk value representing the cross talk affecting the third track corresponding to the alteration.
- Selecting an optimum alteration, where the optimum alteration is that
- 10 alteration from the group of N alterations which has a lowest cross talk value,
 - Altering the block of input words using the optimum alteration.
 - encoding the altered block of input words into code words using a channel code
- where the alteration is comprised in the key identifying the recording medium
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2. Method for generating a key identifying a recording medium comprising code words, the method comprising the steps of
 - determining a control point in a block of code words where the block of code words can be altered by an alteration.
- 20 - for each alteration of a group of N possible alterations determining, between a group of code words in a first track and a group of code words in a second track which is adjacent to a third track which is adjacent to the first track, a crosstalk value representing the cross talk affecting the third track corresponding to the alteration.
- Selecting an optimum alteration, where the optimum alteration is that
- 25 alteration from the group of N alterations which has a lowest cross talk value,
 - Altering the block of code words using the optimum alteration.
- where the alteration is comprised in the key identifying the recording medium

3. Method generating a key identifying a record carrier comprising code words as claimed in claim 1 characterized in that the control point is a bit insertion point.

5 4. Method for generating a key identifying a record carrier comprising code words as claimed in claim 2 characterized in that the control point is a code word replacement point.

5. Method for generating a key identifying a record carrier comprising code words as claimed in claim 1, 2, 3 or 4 characterized in that a crosstalk value is determined calculating a digital sum value of an exclusive NOR operation performed bitwise on the group of code words in the first track and the group of code words in the second track.

6. Method generating a key identifying a record carrier comprising code words as claimed in claim 1 or 2, characterized in that the group of code words in the first track is limited to a section of the first track and that the group of code words in the second track is limited to a section of the second track and that the section of the first track is aligned perpendicular to a reading direction of the first track with the section of the second track.

7. Method for generating a key identifying a record carrier comprising code words as claimed in claim 5, characterized in that the bitwise exclusive NOR function includes a weighing function reflecting a physical distance.

8. Encoder for generating a key identifying a record carrier comprising code words while encoding a block of input words into a block of code words using a channel code for a recording medium comprising tracks for storage of the block of code words comprising coding means for encoding the block of input words into a block of code words characterized in that the encoder further comprises

- Control point alteration means with an input for receiving a data block and an output connected to the encoding means where the control point alteration means is operative to determine a control point in the data block at the input where the data block can be altered and to alter the control point based on an alteration instruction received on a alteration

instruction input.

- crosstalk determination means with an input connected to the output of the encoding means and an output, operative to determine a first crosstalk value for a first control point alteration and a second crosstalk value for a second control point alteration,

5 - Selection means with an input connected to the output of the crosstalk determination means and an output connected to the alteration instruction input operative to select a control point alteration corresponding to the lowest crosstalk value of the first crosstalk value and the second crosstalk value

10 9. Encoder according to claim 8, characterized in that the crosstalk determination means is operative to process a group of code words in a first track of the recording medium and a group of code words in a second track of the recording medium which is adjacent to a third track of the recording medium which is adjacent to the first track of the recording medium when determining a crosstalk value representing the cross talk affecting the third
15 track.

10. Recording device comprising the encoder as claimed in claim 8 or 9

11. Recording medium comprising tracks comprising a block of code words,
20 characterized in that the block of code words comprises a first block in a first track and a control point corresponding to the first block, the control point having a value, where the value is based on a cross talk between the first data block in a first track and a second data block in a second track, where the second track is adjacent to a third track which is adjacent to the first track and where a set of control points form a key identifying the recording
25 medium.

12. Recording medium as claimed in claim 11, characterized in that the recording medium has a track pitch between the tracks and that the track pitch varies locally on the recording medium

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13. Recording medium as claimed in claim 11, characterized in that the recording medium has a track pitch between the tracks and that the track pitch is smaller than a minimum track pitch accepted by a playback device when no control points are comprised by the recording medium.

14. Playback device for playing back a recording medium as claimed in claim 11, characterized in that the playback device comprises verification means for verifying the key identifying the recording medium

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15. Playback device as claimed in claim 14 characterized in that the verification means comprises key retrieval means for retrieving a key from the recording medium, data retrieval means for retrieving data from the recording medium and recalculation means for recalculating control points based on a cross talk between a first block of data retrieved from a first track and a second block of data retrieved from a second track, where the second track is adjacent to a third track which is adjacent to the first track and comparison means for comparing the recalculated control points and the key retrieved by the key retrieval means..

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16. Playback device as claimed in claim 15, characterized in that the playback device comprises an optical pick-up comprising at least two read-out spots for simultaneously reading a first track and a second track which is adjacent to a third track which is adjacent to the first track.

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17. Playback device as claimed in claim 15, characterized in that the playback device comprises an optical pick-up comprising a single read-out spot for simultaneously reading at least two adjacent tracks

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18. Playback device as claimed in claim 17, characterized in that the single read-out spot is a normal read-out spot enlarged by defocussing the normal read-out spot

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19. System for copy rights control comprising a recording medium, a server for providing identification information, a play back device comprising verification means for identifying a recording medium based on identification information provided by the server and a key on the recording medium, characterized in that the verification means comprises key retrieval means for retrieving a key from the recording medium, data retrieval means for retrieving data from the recording medium and recalculation means for recalculating control points based on a cross talk between a first block of data retrieved from a first track and a second block of data retrieved from a second track, where the second track is adjacent to a third track which is adjacent to the first track and comparison means for comparing the

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recalculated control points and the key retrieved by the key retrieval means.

20. System for copy right control as claimed in claim 19 characterized in that the recording medium has a track pitch between the tracks and that the track pitch varies locally
5 on the recording medium in a way unique to a production batch of recording media.